

Limit test for sulphate(sodium chloride)

Aim- To perform the limit test for sulfate (sodium chloride).

Requirements-

Apparatus- Nessler's cylinder 50 ml, beaker, stirrer etc.

Chemicals- sodium chloride, HCl, sulfuric acid, barium chloride, alcohol.

Theory –

The limit test for sulfate is mainly designed to control sulfate impurity in inorganic substance. It depends upon the pptn of the sulfate ion with BaSO_4 reagent in the presence of dil. HCl. The turbidity so obtained is compared with std turbidity containing a known amount of sulfate ion.

Procedure-

Sample:

Dissolve the specified qty of NaCl in 10 ml of DW and transfer to a nessler cylinder. Add 2 ml of dil HCl. Dilute to 45 ml with DW. Add 5 ml of BaSO_4 soln. Stir immediately with a glass rod, and set aside for 5 min. The turbidity produced is not greater than the std turbidity.

Standard turbidity: take 2.5 ml of 0.01 N H_2SO_4 in a nessler cylinder. Add 2 ml of dil HCl and dilute to 45 ml with distilled water. Add 5 ml of BaSO_4 soln. stir immediately with a glass rod and set aside for 5 min.

Observation:

Inference: the given sample passes/ fails the limit test for sulfate